INSTITUTE OF NEUROLOGY



The
ROCKEFELLER
MEDICAL LIBRARY

Presented to the Library by

Royal College of Physicians of
Edinburgh.

WITHDRAWN

Ha 3.5.5

ON THE

SIMULATION OF HYSTERIA

BY

ORGANIC DISEASE OF THE NERVOUS SYSTEM.

BY

THOMAS BUZZARD, M.D.Lond.,

Fellow of the Royal College of Physicians in London; Fellow of King's College, London; Physician to the National Hospital for the Paralysed and the Epileptic.



LONDON:
J. & A. CHURCHILL,
11, NEW BURLINGTON STREET.

1891.



ROCKEFELLER MEDICAL LIBRARY
INSTITUTE OF NEUROLOGY
THE NATIONAL HOSPITAL
QUEEN SQUARE LONDON, WC1N 3BG
CLASS QS
ACCN. NO. 8026
SOURCE R. Coll. Physns Edinb.
DATE Oct 1979

PREFACE.

A Presidential Address, which was delivered by the author before the Neurological Society of London in January 1890, forms the substance of this work. In publishing the address in book form the opportunity has been taken of adding materially to it, and thereby, it is hoped, of increasing its interest.

The title, it is acknowledged, is open to criticism ; but, after consideration, it has been retained as representing, perhaps as well as could be done in a few words, the object aimed at in the publication. That object is to draw attention to the frequency with which symptoms liable to be looked upon as hysterical are found to be really due to structural changes in the nervous system. To illustrate how apt this error is to occur the author contributes the results of experience extending over many years. He trusts that the discussion of the

subject may tend in some measures to facilitate the diagnosis of certain obscure conditions, and so render it less likely for patients affected with organic disease of the cerebro-spinal nervous system to be considered and treated as examples of hysteria or nerve prostration.

The work is entirely clinical in character. A considerable number of cases are narrated, including, in the majority of instances, their after-history, and much of what value the book may possess depends upon this feature.

London,
November, 1891.

SYNOPSIS.

PAGE

INTRODUCTION... 1

PARAPLEGIA DEPENDENT UPON ATROPHY OF ILIO-PSOAS MUSCLE 5

ILLUSTRATIVE CASES OF THIS AFFECTION 5-22

IMPORTANT SIGNIFICATION OF ABSENCE OF KNEE-JERK IN YOUNG FEMALES 23

CASES OF FRIEDREICH'S ATAXY 23-29

CASE OF HYSTERICAL PARAPLEGIA 29

CASE OF SECONDARY CANCER IN A PATIENT SUPPOSED TO BE HYSTERICAL 32

THE BEHAVIOUR OF THE BLADDER IN FUNCTIONAL AND ORGANIC DISEASE 35

URINARY TROUBLE IN A CASE OF HYSTERICAL PARAPLEGIA 38

TROPHIC DISORDERS OCCURRING IN HYSTERICAL PARALYSIS 41

PAGE

Adhesions in Joints and Contracture of the Skin 42

Total Absence or Great Weakness of Plantar Reflex in Hysterical Paraplegia 43

Illustrative Case showing return of Plantar Reflex on the Patient's Recovery ... 44

Plantar Reflex may be absent in the Affected Limb alone: Examples 46-48

Case of Hysterical Paraplegia, with absent Plantar Reflexes and Contraction of Visual Fields 48

Some Points of Diagnosis in Hysterical Paraplegia 50

Disseminated Sclerosis 51

Frequent absence of Characteristic Symptoms 52

Case of Disseminated Sclerosis which had been supposed to be an example of Hysteria ... 53

Lengthy Remissions occurring in Disseminated Sclerosis 58

Case of Disseminated Sclerosis which had been treated as Hysterical—Fatal Termination 59

Cases of Disseminated Sclerosis diagnosed as Hysterical 62-95

Many Symptoms of Disseminated Sclerosis have long been referred to Hysteria 96

PAGE

Value of the Absence of Plantar Reflex as a Symptom of Hysterical Paraplegia ... 98

Cases of Combined Organic and Functional Disease 100

Contraction of the Visual Field in Hysteria 102

Case of Disseminated Sclerosis in a Male Patient 104

Characters of Hysterical Paraplegia 106

Loss of Sight in the Hysterical, and in Cases of Disseminated Sclerosis 108

Value of the Symptom Nystagmus 109

Value of the Symptom Tremor on Voluntary Exertion 109

Localised Atrophy in Disseminated Sclerosis may be temporary and shifting 111

On the probable Organic Origin of many Symptoms accounted Hysterical 112

Instances of Recurring Amblyopia in Disseminated Sclerosis 60, 71, 72, 80, 83

Changes in the Optic Disc in Disseminated Sclerosis 60, 63, 65, 69, 70, 80, 88

ON THE

SIMULATION OF HYSTERIA

BY

ORGANIC DISEASE OF THE NERVOUS SYSTEM.

In our practice as physicians we are very frequently meeting with cases which suggest the presence of organic lesion of the nervous system, whilst, at the same time, circumstances occur to make us doubt whether the symptoms present may not be dependent upon what, for want of a better term, is styled "functional" disorder. It is unnecessary here to attempt to define what is meant by the term, nor to insist upon the importance, both as regards prognosis and the treatment of the condition, that our diagnosis should be correct.

The field occupied by cases of this descrip-

tion is extensive, and I propose to limit my observations to the consideration of cases in which some loss of power in a limb or limbs is the dominating feature. In a previous work* I discussed the differential diagnosis between certain hysterical conditions and myelitis, and the present is in some measure an extension of the same subject.

It is not my intention to dwell at any length upon the more common forms of so-called "hysterical" paralysis, the recognition of which the surrounding circumstances may render easy, although it will be necessary by way of comparison or contrast to quote some instances of this class.

One difficulty in connection with the class of cases to which I refer, lies in the fact that under the term "functional" we probably have often to include (because of our inability to differentiate them) examples of various forms. There is, in the first place, involuntary simulation of organic disease associated with some morbid psychical condition—to which the term

* "Clinical Lectures on Diseases of the Nervous System," Lecture V., 1882.

hysterical is usually applied. Next, there are examples of functional inability dependent probably upon a temporary malnutrition of certain parts of the nervous centres. There appears reason to believe that this local imperfection may sometimes exist for a long while without giving rise to destructive changes in the parenchyma, but that in most instances it represents but a stage of actual change in tissue, which eventually becomes permanent and irrecoverable. How far we may reckon that there is a point in this progressive deterioration at which treatment may be successfully applied must still be considered doubtful, although evidence tends rather to the idea that this is the case at an early stage. The cases of this class present peculiar difficulty in their diagnosis, because, combined with evidence of local troubles of nutrition in the nerve centres, there are often so many symptoms of hysterical or emotional character as to greatly obscure and confuse the picture.

To this category especially it is proposed to draw attention on the present occasion. It is possible that my remarks may apparently

tend even more to expose than to solve the difficulties which we are liable to encounter in dealing with cases of this description, but it will not be denied that a clear recognition of the points of doubt is an important step towards solution of the problem.

As far as possible the sequel of cases to which reference is made will be related. This will often decide a question which has been a puzzling one. Owing to the kindness of Dr. Playfair, with whom I have examined during the last ten or twelve years many cases in which a serious question of diagnosis has arisen, I shall be able to refer to the results of the Weir Mitchell treatment applied with his well-known skill. This form of systematic treatment is so remarkable in its effect upon the economy that it may fairly be likened in some measure to one of those experiments which enable us to decide some question in natural science. In some cases to which reference will be made, the disappearance under improved nutrition of the symptoms which gave rise to the doubt has resolved the difficulty in the happiest way possible. In others the question has been determined by failure of

time or treatment to interrupt the course of the malady, or by a fatal issue.



There is a form of paraplegia hitherto, so far as I am aware, undescribed, of which I have seen several examples, and in nearly all of them important questions have arisen as to the functional or organic nature of the condition. Although the lesion probably concerns in some of these the muscular rather than the nervous system, circumstances make it advisable that I should class these cases together, and include a brief account of them in the present collection.

Case 1.—A young lady, æt. twenty-one, was seen by me in consultation with Dr. Playfair on November 1st, 1886.

Since the age of fifteen she had been observed by her friends to have a peculiar gait, and this was noticed two years later by a surgeon who was consulted on account of some pain in her joints. At that time she walked with a stiff and stilted gait, which was chiefly

noticeable in going upstairs, and varied very much. There appeared, however, I was told, to be no want of muscular power. She could walk well, and dance. From time to time she suffered from a variety of typical hysterical symptoms, including an aversion from food, under which she had greatly lost flesh and strength at the time that I saw her. It was especially during several preceding months that she had gradually failed in her walking powers, and on several occasions had fallen down.

The question to be determined was whether the condition was an hysterical one, as it had been pronounced to be by more than one medical authority, and likely therefore to yield to a course of Weir Mitchell treatment, for which purpose she had been taken to Dr. Playfair.

On examination I observed that the girl was highly anæmic. She could stand or walk without support, but slowly and laboriously, inclining the trunk to the side opposite to that from which depended the limb which was being advanced. When in the recumbent position she could flex the thighs upon the trunk with a fair amount of force, but when seated she had

little or no power of lifting either knee. Extension at the knee joint was only moderately well performed, whilst the power of flexion at the same joint, and extension and flexion at the ankle joint, appeared to be normal. When standing it was with great difficulty that she could place her right foot upon a chair, and only by adopting a swinging movement. She could not even swing the left foot on to it. With her right foot on the chair, she could not lift herself up so as to stand upon it. As a necessary consequence of this inability, the ascent of a staircase was accomplished only with the greatest difficulty and labour. With all this, the muscles of the lower extremities were to all appearance well developed, and showed no sign of atrophy. There were no sensory symptoms. No complaint was made of the upper extremities.

The wrist jerks were exaggerated ; the knee jerks, on the other hand, were decidedly feeble. This contrast in the state of the deep reflexes, when taken in conjunction with the other symptoms, gave important evidence. I have often referred to the fact that the knee jerk is not, according to my observation, lost in cases of hysteria ; on the contrary, it is almost always

increased. Its marked diminution in this case, alongside of greatly exaggerated wrist jerk, pointed in the circumstances to impaired nutrition of the second lumbar segment of the spinal cord. The complete loss of power in the ilio-psoas muscle, as shown by the examination of the patient's movements, appeared to indicate that the first lumbar segment was still more severely affected. An opinion to this effect was given. As regards the Weir Mitchell treatment, it was agreed that the general health was likely to receive benefit from it, but no promise could be made that the local symptoms would be removed.

The patient went through a course of systematic treatment conducted by Dr. Playfair, who at the end of six weeks was kind enough to let me again examine her. She was no longer anæmic, and had greatly improved in appearance. She had gained fifteen pounds in weight. The knee jerks were now well marked, but there was still considerable difficulty in the movements performed by the ilio-psoas muscle. She could "fling" her foot on to a low chair—it could scarcely be called lifting it—and could then drag herself up, holding on to the back of

the chair, so as to stand upon the seat. This was only when the right foot was employed; she could not do this with the left.

I am informed that this lady still shows a certain peculiarity of gait, but that she can dance, run about quite actively, ascend stairs quickly, and appears to have full muscular power. She was recently married.

Postponing for a time consideration of the nature of this case, let me refer to some others, possibly belonging to the same class.

Case 2.—Some four years previous to this I had been consulted in the case of a well-nourished healthy-looking young woman, æt. twenty-four, who had failed in her walking powers, and a similar question had arisen as regards the nature of her disability. It is notorious that when a girl of highly neurotic temperament complains of difficulty in walking, the suggestion of an hysterical cause is very apt, and in many cases justly, to arise.

The patient, whom I saw in 1882, had been observed by her mother in 1879 to be walking in a laboured way, which was at first attributed to the wearing of high-heeled boots, and the

presence of chilblains. But the difficulty continued and only increased as time went on. It appeared that in the winter of 1876-77 she had undergone great fatigue in "rinking," and it was not long after this that she had begun to feel unduly tired in walking.

I found on examination that those muscles of the lower extremities the condition of which it was possible to examine by the eye, and by electrical testing, were well developed, and that the only defect in movement was in the action of the ilio-psoas group. There appeared to be absolutely no power of flexing the thigh upon the knee, all the other movements being well performed. The knee jerks were normal. The patient was sent to bed, fed, rubbed, and fired in the lower dorsal region of the spine, but without any effect. In December 1883 she could still walk, but required first to be set upon her feet.

I learned last year that she had lost all power of movement in her lower extremities. There was no wasting of the limbs, which were sound and indeed unduly firm.

CASE 3.—Last year a sister of this patient, æt. twenty-eight, was brought to me suffering

in her turn from a somewhat narrowly localised loss of power. This patient could run up stairs two steps at a time, and mount easily upon a chair without the aid of her arms, but she had no power of dorsal flexion of the right foot, and almost none in the left. The leg itself was very firm and plump. Electrical examination showed complete absence of reaction to induced currents in the anterior tibial muscles.

The patient, I learned, had enjoyed very good health, but her walk had been observed to be peculiar for eight or nine months. This was due, no doubt, to the dropping of her feet necessitating high action. Besides the patient with ilio-psoas paralysis above described (Case 2) this girl has two other sisters, one whom I have not seen, who is thirty-two years old and married, and is described as walking in the same fashion. She is unable to walk fast. The other sister, twenty-five years of age, shows no peculiarity of gait. It is evident that in the first of these three sisters' cases no question as between the organic or functional nature of the affection could have arisen, had the muscles affected (the flexors of the thigh upon the trunk) been in a position to be explored by electric currents.

They would doubtless have shown an absence of reaction to induced currents, such as was discovered in the anterior tibial muscles of the second sister. But although in very emaciated persons it may, though very rarely, be possible to apply a rheophore in the situation of the iliacus muscle, the pain caused by electric currents in this situation is intolerable to most persons, and renders exploration impracticable.

I suppose it can hardly be doubted that the condition of the anterior tibial muscles, in the second sister, gives the clue to that of the iliopsoas muscle in the first, and from the description given of the married sister (whom I have not seen) it seems likely that she is also affected in some of her muscles in a similar manner.

It seems probable that these are cases of idiopathic muscular atrophy—a primary myopathy, which is apt to occur in several members of the same family, and is not of central origin. The unnaturally firm condition of the limbs, coupled with the results of electrical examination, seems to point to overgrowth of interstitial tissue. In this family I could hear of no other instance of a like affection, and

the only peculiarity in the history that could be ascertained was that the father and mother were first cousins.

Case 4.—Some years ago I saw with Dr. Playfair another lady who had been affected for more than ten years with a similar powerlessness which was confined to the ilio-psoas muscle. This was said to have ensued upon a moral shock, and in her case the condition was supposed to be hysterical. The Weir Mitchell treatment was adopted without success. She was probably an example of the same condition.

Case 5.—In 1885, a military man, æt. sixty-eight, consulted me on account of inability to flex the hip joints—the other movements of the lower extremities being perfect, and the electrical reactions of the muscles which could be reached, normal. There was no loss of sensation. The knee jerks were perfect, and there was no difficulty in the action of the bladder. The want of power first showed itself at the close of the Crimean campaign, during which the patient had enjoyed good health. He was

affected with peculiar nervous sensations. In this case there was a history of syphilis, but specific treatment had produced no effect.

CASE 6.—A lady, æt. thirty-six, was sent to me by a physician as a case of hysteria, in Febuary of last year. It appeared that in 1883 she had begun to feel weakness in her legs, shown especially by difficulty in going upstairs—a difficulty which had been more or less constantly increasing. Examination showed that although the left lower extremity was that which was almost alone complained of by the patient, the right had but little the advantage in power. She rose from a sitting position with difficulty, and could not lift either foot on to a chair, but only by adopting a swinging movement of the leg could she accomplish the position. With the foot on a chair, she could only lift up the other foot to the same level by pulling at something high above her. It was not sufficient to grasp the chair-back. The other movements of the lower extremities appeared to be normal—that only in which the ilio-psoas muscles are concerned was affected. The muscles which were in a position to be tested responded normally

to electrical currents. It appeared, from her account, that a brother rather older than herself was similarly afflicted, and later I had the opportunity of examining him.

Case 7.—The brother of the lady whose case I have just described, consulted me in May, 1890. He was thirty-nine years of age, and was actively engaged in business.

From childhood, according to his account, he was always supposed to be weak upon the legs, but he played football, and it was only, he thought, for about ten years that he had experienced difficulty in getting upstairs, and in mounting on horseback. He thought the difficulty had increased, and he had felt it especially whilst grouse shooting during the last season.

When stripped, it was found that the muscles of the lower extremities were more than commonly developed, the quadriceps extensor standing out like that of an acrobat. He could manage to lift either foot on to a chair, but only in a sort of roundabout way, and apparently by the employment of the tensor vaginæ femoris muscle. The foot being so placed, he was unable to pull himself up so as

to stand with the two feet on the chair. The knee jerks were present, but not very well marked. The right was stronger than the left. He told me that if he caught his foot in an obstacle he was unable to bring the other foot rapidly enough forward to save himself, and would consequently pitch forward upon the ground. The tensor vaginæ femoris on each side was hyperptrophied. The electrical reaction of the muscles that were tested was found to be normal.

This patient told me that his general health was excellent, and that he could walk all day *on the level*. He had four brothers, all remarkably strong. One of them had walked eighty-two miles in twenty-two hours. The family was a long-lived one, and with the exception of the sister (Case 6), no instance of muscular atrophy had been known in it.

It is to be noted that both this patient and his sister appear to have displayed symptoms of weakness in the ilio-psoas muscle at about the age of twenty-nine.

Case 8.—Last autumn I examined a lady æt. forty-two, who showed great difficulty in lifting

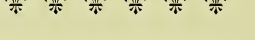
her foot on to a chair, and complained much of trouble in going upstairs. Her gait resembled that of the other patients affected with incapacity of the ilio-psoas muscle. In walking, as she puts forward the right foot, the left shoulder sinks remarkably, and the same with the left in its turn. The knee jerks were present and well marked, and the muscles of the lower extremities did not appear wasted.



The occurrence of localised want of power in the ilio-psoas muscle in more than one member of a family coincidently, points rather distinctly, I think, to muscular atrophy as the cause of the incapacity. And this view, as will have been seen, is confirmed by the occurrence of muscular atrophy in a situation patent to the eye and to electrical testing, in Case 3, the sister of a patient affected with loss of power in the ilio-psoas district.

It would appear from these cases that there is a form of progressive muscular atrophy which commences in the ilio-psoas muscle, which may

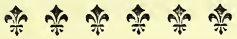
attack more than one member of a family, and is probably a primary myopathy.



Atrophy of the ilio-psoas muscle occurring in a young female, accompanied by hysterical symptoms, would seem to be peculiarly liable to be wrongly interpreted. The patient complains of difficulty in walking, but the knee jerks are preserved, and the electrical condition of all the muscles of the lower extremity that can be tested is strictly normal. One is naturally disposed to expect in such a case that if there be a central lesion in the cord, either the muscles innervated from the lumbar enlargement will be found atrophied and their electrical reactions abnormal, or if the lesion be above the enlargement, that symptoms of spasticity will be observed, the knee jerks will be exaggerated, and more or less ankle clonus present.

I think that the cases which I have described may serve a useful purpose in drawing attention, in a doubtful case, to the fact that there may be isolated atrophy of the ilio-psoas muscle, giving

rise to that form of paraplegia which is characterised by the patient being unable to mount stairs without dragging at the banister, and, one foot being placed upon a chair, inability to lift the body up so as to stand upon it with both feet.



The successful result of systematic treatment by high feeding and massage in the case first related is probably to be explained by the fact that the patient was anæmic and much reduced. It seems possible that in her case the condition was not one of congenital muscular atrophy, but that there was a temporary state of mal-nutrition of the cord, which recovered. I remember another instance of the kind in a young woman profoundly affected with anæmia, who regained power under appropriate treatment.

Case 9.—A governess, æt. twenty-three, came to me on Oct. 18th, 1884, on account of difficulty in walking. She had been delicate in childhood, but had usually enjoyed good health.

For the last fortnight she had been unable to carry on her occupation. Five weeks previously she had felt her breath very short in going up stairs, and had kept in bed for a few days. Every time she left the bed she fainted. A fortnight since she experienced great difficulty in walking, as though her legs gave her no support, and there was a great aching at the bottom of the back. She could only just hobble about from one room to the other. There was great vesical irritability. The catamenia had been suspended for three months. The patient was suffering from marked chloro-anæmia ; the cardiac sounds were normal ; the urine contained no albumen or sugar. There was some tenderness on pressure on the first lumbar vertebra ; the spinal column showed no deformity. The movements of the lower extremities were feeble, especially flexion of the thigh upon the hip, which could scarcely be performed. The knee jerks were rather in excess. Iron and arsenic were prescribed for her.

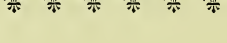
After a fortnight she had greatly improved in colour, and was able to walk better. The trouble with the bladder, however, still continued. She was unable to lift the left knee, but could lift

the right. There was no affection of sensibility. In three weeks more she felt quite well in herself, and the vesical trouble had ceased. She was able to lift the right knee against a certain amount of pressure, but the left not at all. She could straighten the left leg, flex and extend the foot, and in fact do anything but lift the knee. In going up stairs she would put her right foot down first, and then draw the left after her ; in descending the left was put down first. She still suffered from palpitation and breathlessness.

About six weeks later, when I saw her again, the legs had quite recovered ; she was able to walk more than a couple of miles, and could lift her knee on either side in normal fashion.

Case 10.—In 1889, a married lady, æt thirty-four, applied to me on account of impairment in the power of walking, from which she had suffered for one and a half years. She had given birth to children very quickly, and her last was ten months old. For three months before the birth of this, she was at her worst and had to be carried about, nor was there very marked improvement after her confinement,

though she contrived to walk a little. She had a very "waddling" walk. There was no perceptible muscular atrophy. The spinal column appeared normal. The weakness appeared to be entirely in the action of the ilio-psoas muscles, so that she could not mount a chair, and had to pull herself up stairs by the banisters.



It will be remembered that the late Dr. Moxon, in his Croonian Lectures before the Royal College of Physicians in 1881, called attention to the great length and obliquity of the spinal arteries which supply the lower third of the spinal cord, as a probable cause of temporary anæmia in that region. It would seem that where there is general anæmia this anatomical arrangement may explain the localisation of disturbed nutrition in this part. I suppose that in the case first related, where the knee jerks, which were at first small, became well pronounced as the patient recovered, it was to the anæmic condition of the cord at the second lumbar segment that the imperfection of the

reflex action was due. One can conceive it possible that in a given case anæmia might even be so extreme as to cause a temporary disappearance of this reflex. It is necessary to bear this in mind, as the absence of knee jerk is a symptom which, if the illness has been long continued, is more suggestive of permanent damage than of a condition capable of being treated successfully.



The absence of knee jerk in a young female, so far as my experience goes, is a matter always requiring very careful examination. I need not mention the obvious conditions which usually explain the absence, but would refer to cases of a less common kind, which are occasionally met with. One of these I saw with Dr. Playfair in 1884. The patient, a young lady, æt. twenty-six, had begun to get weak in walking eight or nine years previously. The difficulty had gradually increased until she had an attack of tyhoid fever, since when she had been unable to walk at all.

Examination showed the following condition. —Her speech is ataxic, the words being slurred. The hands possess a good grasp, but are rather wildly moved about when directed to touch an object—a condition of marked ataxy. This is the case with each hand. It is not the tremor of disseminated sclerosis, but the movement of a person suffering from tabes dorsalis. There is no wrist jerk on either side. She cannot sit up. When two persons tried to make her stand and walk between them, she could do nothing; her legs and feet disappeared and were mere appendages to her frame. There was no power whatever of standing; she sank "in a heap" to the ground. Lying on the couch, she failed to lift the right foot which was on the ground. The sensibility of the limbs appeared good. The knee jerks were absolutely wanting; the plantar reflex was preserved. There was enormous lateral curvature of the spine. This, she informed me, had not been observed to begin until she was ten years of age. There had never been any pains. The powerlessness of the muscles of the trunk and lower extremities was very great. With all this the action of the bladder and bowels was described as

normal, although there had been occasional incontinence.

The patient had a fairly good colour, with a face not markedly unhealthy looking. Her manner was highly nervous and hysterical. The pupils responded well to light.

It appeared that her condition had been ascribed to hysteria, and that in an earlier stage of her illness she had been forced to try and walk up stairs under the impression that the disability was due to want of "will." She managed this only by the aid of the banisters, never without. At that time (three years previously) she could get about a room with the help of a chair. The general health was good. I was of opinion that the case was one of Friedreich's ataxy and that it was not fitted for the Weir Mitchell treatment.

Her mother told me that she had two sons and one daughter besides the patient. They were in very good health, able to play lawn tennis and take long walks. She herself enjoyed good health, and so did the father of the patient. Neither in her family nor in her husband's was there any case of paralysis or nervous disorder so far as she knew.

As is well known, Friedreich's ataxy is usually not confined to one member of a family, so that in this instance the exceptional limitation increased the likelihood of the case being referred, as indeed it had been positively, to hysteria; but there can be no question of its nature.

Another case of this kind, lately under my care in hospital, had been previously considered to be one of hysterical paralysis. The following account is taken from the notes of Dr. May, resident medical officer. Patient is a young woman, æt. twenty-four, who complained of some difficulty in walking eight years ago. There were aching pains in the legs constantly, but increased now and again. At times she complained of "girdle sensation." She never suffered from lightning pains. Five years ago she became unable to walk, and her hands were noticed to be unsteady for fine movements. For four years the articulation has become indistinct. Her mental condition is fair, but she is a little depressed, and cries somewhat easily. The eyes show nystagmoid jerkings on looking to either side. Her speech is slow, jerky, and indistinct. The movements of the arms are

distinctly ataxic. Sensation is normal. There are no wrist or elbow jerks. The legs are very ataxic. The patient cannot stand, even with support. There is no wasting. There is slight tendency to contracture in the feet. The knee jerks are absent, there is no ankle-clonus. The plantar reflex is active. The spine presents a lateral curvature. There is weakness in the muscles of the spine and of the neck. There is some unsteadiness in the head when it is unsupported.

This patient is not, like the last, an isolated example of Friedreich's ataxy. An elder sister now thirty-nine years of age, became affected with similar symptoms when about fifteen years old. She has four brothers who are quite well.

A year or two ago a young man, æt. twenty-four, was brought to me on account of difficulty in walking, the cause of which had given rise to difference of opinion. He had a staggering gait, with hesitating and slurring speech. The knee jerks were absent.

It appeared that up to fourteen months old he had been liable to "spasmodic croup," and he was two and a-half years old before he began to

stand upon his feet. As a school boy he would tumble about at times and never could learn to dance. He did well, however, in his school work and carried off prizes, the mental development being good. He went to one of the universities, but had to quit it after two years, the proctors accusing him of intoxication owing to his gait. This was, evidently, a case of Friedreich's ataxy, but here again I could obtain no history of a family proclivity to the disease. There was an elder brother and a younger sister, both of whom I was informed were free from disease, and I could not hear of any other member of the family having been affected in a like manner.

I cannot remember (and my very imperfect notes say nothing upon the point) whether either of these patients presented the deformity of foot which has been specially described by Rutimeyer, Burg and Ormerod. My attention was first drawn to the symptom by Dr. Ormerod, who thus describes the development of the kind of club foot which is apt to occur in cases of Friedreich's ataxy. "The instep becomes prominent, and the meta-tarsals appear to be shortened; at the metatarso-phalangeal joints

the toes become over-extended, and at the first inter-phalangeal joints flexed. The foot looks humpy and shortened. Below, the plantar arch (at least as seen from the inner side), is abnormally high, and the balls of the toes are very prominent. The foot also tends to assume the position of equino-varus."[1]

I remember seeing a case many years ago (which I do not now doubt was one of Friedreich's ataxy, although I failed to diagnose it at the time), in which the only complaint made by the patient was of this club foot, to which was attributed the difficulty in gait. The knee jerks were absent. It may be well to mention this, as there is always the possibility of the disease being overlooked from the attention being directed to one prominent symptom.



There is no doubt that as a rule the fact that a patient has been observed on some occasion when she thought herself alone, to perform some

[1] BRAIN, January, 1888.

movement which she has previously alleged to be impossible, lends us very important aid in coming to the conclusion that the case is not one of organic disease. This circumstance occurred in a case which I will briefly relate.

A lady, æt. thirty-three, was seen by me at Dr. Playfair's request on June 16th, 1884. She had been for nearly eighteen years confined to her bed on account of loss of power in her lower extremities.

The patient had fallen down a flight of steps at the age of fourteen or fifteen, and shortly afterwards began to walk with difficulty and only with the help of sticks and crutches. She was seen by an eminent surgeon, who thought that she might have injured her spine and advised that she should rest. She took to her bed, and shortly afterwards completely lost the use of her lower extremities.

The patient when I visited her lay on a couch with her legs semi-flexed at the knees and turned on their side. The feet were dropped and toes pointed. She said that she was unable to move her legs voluntarily in the least, but that they moved sometimes of themselves. She knew how they were lying without looking at them.

The muscles when examined electrically were found to contract normally to induced currents. There was complete anæsthesia of both legs from just above the knee downwards—in fact of that portion of the lower extremity which would be covered by a stocking. The limbs were emaciated, the muscles being small and flabby, but there was no "picked-out" atrophy. The knee jerk was good on each side, and the tendo achillis jerk well marked; there was no ankle clonus. The plantar reflex could scarcely be evoked. The spinal column was free from deformity; there was superficial tenderness in the mid-dorsal region, and also in the nape of the neck. The patient gave me her left hand saying that the right was somewhat weak. The muscles of that arm contracted normally to induced currents. The cutaneous anæsthesia was entirely confined to the legs. The patient did not suffer from any pains in the extremities; there were no bed sores. She was liable to severe dysmenorrhœa. The sight was perfect, the intelligence high, the general health very good.

I was informed that on two or three occasions the urine had been passed in the bed apparently

without the patient's knowledge. On one occasion when she had been laid up on her couch for about ten years, her maid, coming unexpectedly into her room, found her standing at the window, whence she walked to bed again. Even without this incident, the case, it will be seen, presented but little difficulty in diagnosis.

A confident opinion was given that the case was one of hysteria, and the patient was put through a course of systematic treatment. She perfectly recovered. Dr. Playfair informs me that she has remained well ever since, and leads a very busy and energetic life.

A recent experience shows that great caution should be observed in drawing inferences from some behaviour of the patient which appears inconsistent with other symptoms. I saw not long ago in consultation a lady, æt. fifty-five, of highly nervous temperament, with hysterical antecedents, who had been suffering for several days past from attacks of violent colic-like abdominal pain, extending at times to the lower extremities. She described the attacks as commencing with a "creeping" up the spine. In the course of time there would

be a state of intense excitement, with convulsive movements of the arms.

It appeared that one of her breasts had been removed in the early part of the year on account of malignant disease, and the patient was under so fixed a belief that the present illness signified a reappearance of this disease, that she could not be pacified.

The patient looked thin, but not emaciated. She lay in bed and appeared to have especially great difficulty in flexing the thighs upon the trunk; dorsal flexion of the feet was performed more easily. The muscles were very flabby. The knee jerks were absent, and there was no plantar reflex. She complained of numbness over both lower extremities from about the level of the tenth dorsal vertebra downwards, and in this district touches were felt imperfectly. She told me that a fortnight previously numbness had commenced in the right lower extremity and also rather to the left of the spine. At the same time there was weakness of the right leg. This had gradually within the last few days invaded the left lower limb, but the right was still the worst. She was sure that the loss of power and the numbness both com-

menced together in the right limb. Nothing wrong was to be detected about the spine nor in the abdomen.

The nurse said that the patient when by herself walked about the room quite actively, in strong contrast to the feebleness of movement shown when she was observed. In view of this circumstance, the patient's manner and history, and the absence of any sign of growth under the most careful examination, opinions had been expressed that the symptoms were probably functional, and it was with a view of helping to clear up this initial difficulty that my opinion was asked. From the fact that, whilst the wrist jerks were strongly marked (as is common in hysterical women), the knee jerks were quite absent, I had no difficulty in coming to a conclusion that the symptoms depended upon organic lesion. The opinion was expressed that she was suffering from neuritis, and this was assigned to the cauda equina. It might be due either to rheumatism, gout, syphilis, or the presence of a malignant growth. The latter contingency was the one to be feared in the circumstances. Large doses of iodide were, however, advised to be given tentatively.

On Nov. 20th, there was still further loss of power, but the attacks of colic-like pain had ceased. The vasti muscles did not respond to induced currents. On Dec. 6th there was absolute paraplegia except that she could just move the toes of the right foot. The bladder was not affected. There was difficulty in swallowing and dangerous choking. Her condition became more and more grave, and on Dec. 9th she died, after an attack of choking.

There can be no doubt that she succumbed to secondary deposits of cancer.



In the case preceding that which has just been related, it will be noted that the patient had occasionally suffered from unconscious discharge of urine. The behaviour of the bladder has sometimes been made a crucial test in the question between functional and organic disease. There are conditions of the urinary system which admit of no doubt that they are connected with organic lesion of the spinal cord. In a patient, for instance, with loss of power in the lower

extremities, ammoniacal purulent urine is constantly dribbling away, whilst the patient is unconscious of its discharge. In such circumstances we should not hesitate to diagnose organic disease. But there may be organic disease of the cord whilst the behaviour of the bladder gives no such definite evidence. In spastic paraplegia from sclerosis of the lateral columns the patient may be quite conscious of the desire to discharge urine, and fully aware of its passing, at the same time that he is unable to restrain its evacuation when the desire arrives. A tumour pressing upon the cord in the upper part of the dorsal region may, as its first effect, cause simply an inability to empty the bladder. This may be followed, shortly afterwards, by increasing loss of power in the lower extremities, going on to complete paraplegia, with dribbling of ammoniacal and purulent urine. But the urine may, in some cases of organic disease, remain acid for a considerable time, whilst it is constantly dribbling in small quantities. In hysterical paraplegia retention of urine is not an uncommon symptom, and in some cases it is occasionally discharged involuntarily, the patient apparently not possessing the power of restraining

the evacuation when the bladder is distended. This is not a true "incontinence" of urine, such as is apt to occur from organic disease of the cord. In this latter the bladder is never distended, but the urine constantly runs away as soon as it is secreted. On the other hand, one often sees in organic disease of the cord a condition indistinguishable from that which occurs sometimes in hysteria. There is a kind of spasmodic incontinence. The urine gradually accumulates until the bladder is distended. Then, if it be not drawn off it is suddenly expelled, the patient having no control over it. The fact is that the subject is a very complicated one, and I would here only point out that neither retention of urine nor apparent (though not real) incontinence are of themselves, without other symptoms, evidence either of organic disease of the cord or of hysteria.



An instructive illustration of urinary troubles occurring in the course of a case which was evidently hysterical will be found in the narrative which follows.

A female patient, æt. thirty-three, was admitted into the National Hospital for the Paralysed and the Epileptic on May 26th, 1886, on account of loss of power in both legs and the left arm, of five years' duration.

In the autumn of 1879 the patient had suffered from "inflammation of the lungs," and afterwards from general weakness with "weak heart" and faintness. In 1881 her legs became very weak, and at the end of the year she could not move them. In 1883 the legs began to get stiff, and since then they had gradually become worse.

In 1864 she had fallen downstairs and hurt the left side of the head. This was followed by a discharge from the left ear, and about a year later an abscess formed behind it, and there had been more or less discharge from the abscess or the ear ever since.

In 1878 she had broken "her left arm and wrist and finger," so she described it, and the hand had been useless ever since. The arm, however, and the elbow and shoulder had only been helpless since last July.

She never had severe pain in the back or limbs, and had never suffered from bedsore.

There had been occasional inability to retain the urine for some months during the last year, but there had not been any loss of control over the sphincter ani.

The patient had suffered from scarlet fever at twelve, and diphtheria at seventeen. As regards her family history, the father as well as two of his sisters and two of his brothers and many other relations had died of consumption. Her mother has cancer; many of her relations have had paralysis.

On admission the following note was taken by the house physician. There is complete left facial paralysis; a foul discharge comes from the left ear, copious in amount, with tenderness on pressure over the mastoid process, where there is a mark of an old scar. A short distance inside the external auditory meatus a pale polypoid mass is seen. In the left eye corneal opacities are seen in the lower half. There is no paralysis of the tongue, no difficulty in articulation or deglutition. There is aphonia: attempts to examine the larynx failed.

The left hand lies in a position of rigid flexion, the joints cannot be voluntarily moved. The patient cannot stand; there is rigidity of the

legs in the extended position. Both ankles are extended, and the toes over-extended on the meta-tarsus. There is no voluntary power over the joints of the lower extremities. Knee jerks are equal; no ankle clonus can be produced, possibly on account of mechanical impediment; the wrist jerks are equal. There is no affection of sensation anywhere. The plantar reflexes can only be evoked with great difficulty. There is a little tenderness of the spine between the scapulæ; some tenderness is complained of in the iliac fossæ, especially the left. Nothing is found wrong in the cardiac and respiratory systems.

As it appeared likely, from the history and circumstances, that the case was one of hysteria, a few days after admission I forcibly extended the left fingers, which had been rigidly flexed. In doing so the skin was torn at the roots of the fingers. A splint was then applied. Next morning, when the splint was removed, the patient was able to move her fingers to a considerable extent. The legs were now also forcibly moved at the knees, and the feet actively dorsal-flexed as far as was possible. There were evident adhesions in the ankle joints, which

obstructed flexion. Some of these were broken down. Two days afterwards the patient could move all the joints of her legs a little. There was still aphonia. Although the grasp of the left hand still measured o on the dynamometer, she was found to be using the fingers of this hand nimbly enough for knitting. After three weeks it is noted she has now very good movements in the left hand and arm, and has considerable grasping power with it. She can move the toes very well, and bend the knees considerably, but the feet are extended at the ankle joints and cannot be flexed on the legs. There is still aphonia, but she can close her glottis for the purpose of coughing.

About six weeks later the patient was discharged, able to walk fairly well, though a little awkwardly, without help. She could use her left hand and arm perfectly well. The voice had entirely returned. There was no rigidity of any of the limbs.

This was in my opinion a case of hysterical paraplegia, and is important as illustrating besides the "incontinence" of urine some of the trophic disorders which may result simply from long disuse of limbs. The formation of

adhesions in joints, requiring forcible disruption, I have seen in other cases which were proved by the sequel to be of hysterical origin. There was no real muscular contracture in this case, although the dropped position of the feet suggested over-pulling of the sural muscles. As soon as the adhesions were all torn through, the feet could be dorsal-flexed into a normal position. I have reason to think that this condition of joints is often regarded as strong evidence against the diagnosis of an hysterical condition, but I have convinced myself that this is an error.

Nor was there any real muscular contracture in the left forearm, although the *primâ facie* resemblance to the late rigidity so often seen in hemiplegia, was remarkable. In true hemiplegic contracture it will be observed that you cannot by any amount of force straighten the whole limb at one moment. If you straighten out the fingers, the wrist remains rigidly flexed. Bring the metatarsus into a line with the forearm by extending the wrist, the fingers will *ipso facto* become rigidly flexed. But in this case I found, as I have often seen in other cases of apparent

contracture of hysterical origin, that I could extend the fingers and wrist at the same moment, thus bringing the forearm and hand and fingers into the same plane. In doing this, however, the skin at the roots of the fingers gave way, so that there was a transverse tear at each metatarso-phalangeal joint, showing that there had been an adapted contracture of the skin from long disuse of the member.



It is a rule of almost universal application, according to my experience, that the plantar reflex is either entirely absent or very feebly indeed expressed in cases of hysterical paraplegia. Sometimes by perseverance in a very elaborate titillation of the foot-sole the reflex is produced, and occasionally also it is easy to see that a good deal of voluntary action is expended in restraining the muscular contraction. But usually there is a simple absence of the plantar reflex, the stimulus being felt as touch only, even in persons who are naturally very ticklish.

In May, 1883, a young married lady, the mother of three children, was brought up from the country and placed under my care by her medical attendant. When I first saw her she lay in bed, unable, according to her account, to do more than slightly flex each knee joint. She could not lift either foot off the bed, or dorsal-flex it in the least. There was no loss of cutaneous sensibility. The knee jerk was in excess on both sides, the plantar reflex entirely abolished, although she could feel perfectly well the pencil point with which it was tested. With all this want of power in the lower extremities she could yet raise herself in bed from the recumbent to the sitting posture with moderate aid from her hands. She could not stand even with help, but dropped "in a heap" on the floor.

I applied strong faradaic currents to the foot-soles (the muscles of the legs shewed normal reaction) and I talked in a private interview with the patient, explaining to her that she was not paralysed, but that her legs had "gone to sleep." She appeared much relieved by the explanation. When I saw her two days afterwards she was able to walk with the aid of a

nurse's arm. She told me she had "pins and needles" in her legs. I now found the plantar eflex perfectly restored.* Faradaism was again applied, and she was instructed to make various movements of the legs and feet against resistance. Next day she walked without aid, and had lost the "pins and needles" feeling in the legs. The patient presented an emaciated appearance, and told me that she had been losing flesh for six months. She was encouraged to take a liberal dietary, and soon quite recovered her health.



The absence of plantar reflex is, as I have mentioned, so much the rule in cases of hysterical paraplegia, that the presence of this reflex affords rather strong presumptive evidence, in a doubtful case, of the affection being of organic and

* To the behaviour of the plantar reflex in hysterical paraplegia I first drew attention several years ago (*Clinical Lectures on Diseases of the Nervous System*, 1882, p. 118; many cases illustrating this symptom are related in Lecture 5.)

not simply functional character. It is interesting to observe in this connection that the plantar reflex will sometimes be observed to be absent only on the side affected with hysterical paralysis, where this is confined to one lower extremity.

A young woman æt. twenty-one was admitted into hospital under my care in May, 1890, affected with loss of power and alleged shortening of the left leg. It seemed that she had complained of pain in the back in October, 1889, for which, after a time, she had been sent to bed. In March, 1890, after lying in bed for three months, the left leg was found to be partially paralysed. We found the movements of the left leg very weak, attended, it was said, with pain. Tenderness about the left hip was complained of. The limb was kept extended, and to superficial observation appeared considerably shortened, but careful examination showed this to be illusory, and due to the position in which the girl kept her pelvis. There was no anæsthesia.

The knee-jerk was more active on the left side than on the right, and at times ankle-clonus could be elicited on the affected side. On the

other hand, whilst the plantar reflex was very active indeed on the right side, it was entirely absent on the left. The patient was discharged in September not materially improved, but I understand from Dr. Rivers, resident medical officer, that she came to the hospital some months afterwards quite well, having recovered suddenly on the occasion of a great shock caused by her mother's death.

In another case—that of a male—a similar condition was present, and assisted me, in conjunction with other circumstances, in coming to a diagnosis of hysteria.

A man æt. forty, was admitted in June, 1890, with pain in the back and inability to walk without much support. Three months previously he had sustained a fall on the back and left hip, and his symptoms dated from the accident. There was apparent weakness of his lower extremities, but far more in the left than in the right. The muscles of the left lower extremity were somewhat wasted, but the electrical reactions were perfect. Both knee jerks were exaggerated, but especially the left, and there was ankle clonus on the left side. There was no anæsthesia.

The plantar reflex on the right side was active, that on the left entirely absent. Patient alleged that he could only flex the left knee joint if he turned on one side. He could then do it readily. There was no surgical lesion to explain this anomaly, which on the other hand is not a symptom, so far as I have observed, of paraplegia from disease of the spinal cord. The patient was an extremely emotional man, and whilst in hospital was subject to emotional attacks with tremor. I am unable to give the sequel of this case, as the patient quitted the hospital after a time in much the same state as on admission.

In the following case both plantar reflexes were completely absent.

A girl, æt. sixteen, was admitted in April, 1890, with complete loss of power in both lower extremities. In January, 1888, she had complained of pain in the right side, constipation, and retention of urine. She is described as squinting at the same time. In February it was discovered that she had lost feeling all over the body, and there was besides loss of taste and smell. There was complete loss of power in the lower

extremities, and great weakness in the arms. In July, 1888, she had recovered common sensation, taste, smell, and the power of her arms, but the legs remained powerless.

On admission flaccid paralysis of both lower extremities was noted, complete except for very slight movement of some of the toes. Her legs lay motionless in bed quite helplessly in whatever position placed. The muscles were wasted and flabby; the electrical reactions normal. There was no affection of sensation, including sense of position. The knee jerks were active. There was no ankle clonus. The plantar reflexes were completely absent. The field of vision in each eye was greatly contracted; there was no loss of colour vision. Under systematic treatment by high feeding, massage, and later by induced electrical currents, she slowly improved, and was discharged in December able to walk by herself.



The behaviour of the reflexes in hysterical paraplegia is almost always the converse of that which usually obtains in tabes dorsalis—the knee

jerks are exaggerated, and there may be ankle clonus—the plantar reflexes absent. The exaggeration of knee jerks occurs even when there is no tendency to spasticity in the limb, the muscles of which may, indeed, be abnormally lax.

In tolerably recent cases of hysterical paraplegia the limbs may be firm and round, the skin healthy looking, and the knee jerks well marked. If in these circumstances total inability to extend the knee joint and dorsal-flex the foot is alleged, whilst the muscles respond normally to induced currents, the knee jerks are present, and there is no spasticity, the diagnosis is not usually difficult, because one can exclude the presence of structural lesion in and above the lumbar enlargement. But given a partial loss of power in a limb with a tendency to rigidity, and the difficulty of diagnosis is often enormous.



Here we enter the field occupied by cases of incipient insular or disseminated sclerosis, and these are apt to offer diagnostic problems which are sometimes of almost insoluble intricacy.

There are few diseases more easily recognised than disseminated sclerosis when typically developed; there is none, I think, which may present so much difficulty when the symptoms which combine to constitute the type are almost all absent, or but very faintly expressed, obscured too, as they continually are, by hysterical features. I was long ago indebted to an article by A. Pitres* for hints regarding the insidious modes in which this disease might make its approaches, but notwithstanding this, and in spite of all the care which a peculiar interest in the subject has disposed me to take, I am conscious of having made not a few mistakes in diagnosis. From my own observation, and what I have known of the practice of others, I am convinced that a very large number of cases of an early stage of disseminated sclerosis—the stage in which there are probably patches of sub-acute interstitial myelitis—continue to be diagnosed either as examples of hysteria or of voluntary simulation. The most characteristic symptom of

* "Anomalies de la sclérose en plaques."—*Revue Mensuelle*, 1877.

the disease is doubtless that tremor upon voluntary exertion which Charcot has so admirably pictured in his classical account of the disease. But this, as well as the spasticity of muscles, the nystagmus, the "scanning" articulation, and the so-called apoplectiform seizures may be absent. The symptom which is perhaps least liable to fail is an excess of knee jerk, but even this may not be present—in rare cases, indeed, there may be no response at all to a blow upon the ligamentum patellæ — whilst ankle clonus may not unfrequently be unattainable. Moreover, as is well known, exaggerated knee jerks are common in hysteria, and ankle clonus also is sometimes observed. The place properly (so to speak) occupied by the characteristic symptoms of the disease may be usurped by a temporary weakness of one limb, a transitory numbness in an extremity, loss of sight of one eye, a narrowly localised atrophy of a muscle group, or some so-called rheumatic pains. It is evident that when one of these symptoms (the atrophy alone perhaps excepted) stands by itself, and is obscured by signs of hysteria, the probability of a mistake in diagnosis is very great. Indeed in the nature of things it is at

present impossible in all cases to avoid this, but the chances of error are obviously diminished in proportion as we are alive to them.

I have been able in several instances to follow up cases which presented great difficulties to myself and others, and the sequel in these has proved so instructive that I make no apology for detailing them. Unfortunately they are in some instances not quite so complete as would be desirable. Nor is it at all easy to describe with the pen the peculiarity of look and manner which so strongly suggest hysteria when one is in the presence of the patient.



A patient whom I saw on only one occasion fourteen years ago, exercised my curiosity very much, and I should be very glad to learn for certain the ultimate issue.

A girl, æt. twenty, was sent to me by her medical attendant on June 5th, 1877. There was a bad family history. Father epileptic. Several brothers and sisters had died early.

Her mother, a very intelligent woman, had prepared the following notes of her case. "Almost total loss of the use of her legs, especially the left, which is very stiff. Formerly the right leg was most affected. Sharp pains through the right knee.

"Tingling feeling in fingers, with occasional numbness in the left hand.

"Mouth sometimes slightly drawn. At such times speech slightly affected. Appetite bad. Complains of feeling swollen. Her feet are generally cold. Her habit is costive. Her breath is offensive.

"Her temper is peevish, variable, and hysterical.

"The urine is thick and high coloured; it reddens litmus paper and stains linen. Its specific gravity 1013. It contains no sugar or albumen. Perspiration is profuse and offensive."

The patient was a tolerably well-grown girl with red cheeks and large pupils. She could not stand without support, and then only with great difficulty. The legs, being bared, presented a helpless appearance—especially the left. The hair on the skin was rather long. The feet were cold and clammy. In trying to reach a

chair in my room she fell down on the floor. I was told that she had fallen down several times at home.

In February, 1876 (about sixteen months previously), there had been a weakness of the right leg and the left hand, of which she got the better. Again, in the autumn of the same year, whilst at the seaside, there occurred suddenly a weakness of the right leg. But just before she came to me the left leg became the weakest. She complained of tingling in both hands (most in the left), and said that she could not write, play the piano, or draw as she formerly could. She suffered very sharp sudden pains, like a knife going through the right knee. There was also a dull aching pain in the left knee—especially in walking. A well-marked feeling of waist constriction was described.

Her articulation was peculiar—the words seeming to stick in her mouth. When at my request she held out a pencil in her right hand, and tried to measure the length of a face in a photograph, the arm shook up and down, so that she failed to do it.

In the left leg the patellar tendon reflex was strongly marked. When seated, if she drew

the left foot towards her, at a certain point spontaneous ankle clonus of a very marked kind was set up. This also happened when she lifted her foot from the ground and held it up. Tickling the sole also gave rise to clonus.

The heart and lungs were healthy. There was no spinal curvature or tenderness on pressure. The ophthalmoscope showed no change. There was no nystagmus. In childhood she had been rickety, it was said, and she did not walk until more than three years old.

Her mother told me that within the last year or two she had become completely changed. She had taken strongly to ritualism. Her moral character had degraded—the girl having become peevish, ungrateful, and strongly inclined to prevarication. It appeared to me that along with the hysterical symptoms there was typical evidence of disseminated sclerosis, and I expressed a distinctly unfavourable opinion as regarded the future. Arsenic was suggested, and a visit to the seaside.

A few months later I learned that she had quite recovered. But I could never get the opportunity of seeing her. In July, 1878—a year after she had been brought to me—I

ascertained from her medical attendant, who frequently saw her socially (not professionally), that the girl seemed quite well. She could walk any distance, occupied herself diligently, and appeared, as far as he could judge, to have nothing whatever the matter with her.

In answer to an inquiry of mine a year and a-half after this (two and a-half years from the date of my examination), he wrote :—"When I last saw Miss T. she was very well, but she left E—— about three months ago, and has gone to reside in D——. From time to time she has limped a little, or squinted, and then has taken the arsenic. I cannot help thinking her symptoms are due to that wonderful simulator, hysteria."

Since that time I have been able to obtain no information about this patient. I have still no doubt that it is a case of disseminated sclerosis, but the narrative illustrates some of the difficulties encountered in coming to a conclusion as to the functional or organic nature of certain symptoms.*

* I leave this case as it was described in my Presidential Address, but chance has lately favoured me with the long-desired opportunity of supplying the sequel.

The fact that in the course of disseminated sclerosis there are apt to be periods varying in length, of almost or even complete subsidence of symptoms, though mentioned by Charcot and some succeeding writers, is not yet, I think, sufficiently remembered and taken into account when we are occupied with the diagnosis of a case which presents difficulties. The circumstance of this girl's apparently complete recovery would not unnaturally lead to the conclusion that the case had been simply one of hysteria, which the consultant had mistaken, but it will have been observed that a year after the supposed recovery mention is made of occasional "limping" and "squinting," expressions which in the circumstances should have been of grave significance.



A striking instance of the length of time, during which apparent recovery may last, is

A few months ago I was called into the country to see this patient. She had been bed-ridden for two years, and presented all the unmistakable characteristics of an advanced case of disseminated sclerosis.

shown in the ensuing case, the fatal termination of which lends force to the history.

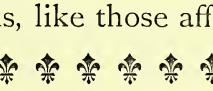
A lady æt. forty was seen by me in May last, when the following notes were taken. I was informed that she had lost all power in her left leg at the age of thirty-three, and at the same time the sense of position failed, so that she could not tell how the limb was lying without looking at it. After about six months, she perfectly recovered and was able to walk well. She remained quite well till three years ago (an interval of nearly four years) when the right leg began to go in the same way as the left had done, but did not become very bad until last year. About three weeks ago the left leg also suddenly lost power, and at the time of my examination both were quite useless. The only movement remaining was that of turning the foot very slightly inwards; all others were entirely absent.

It appeared that three weeks previously she had been able to walk with a great deal of help. More than a year had elapsed since she had been able to get about in a garden with two sticks, and quite a year and a half since she had

been able to walk without a stick. Her case had been diagnosed as one of hysteria by the many medical men who had treated her. Examination disclosed the following symptoms. She is unable to write now; at various times she has lost the power of writing and then regained it. She does not know where her hands are when in bed and concealed by the clothes. With her eyes shut she cannot approximate the index fingers within about four inches. There is great inco-ordination in trying to pick up objects. She does not know where her legs are when in bed.

Four years ago, she lost to a great extent the sight of the right eye, but after a time regained it completely for a short period, subsequently, however, losing it again. At the present time she has little or no vision with the right eye, and very imperfect sight with the left. The right optic disc is white and atrophic, the left normal. There are nystagmoid movements in both eyes on looking at an object held to either side. There is very imperfect power of feeling touches on the right leg up to the knee, and somewhat less anæsthesia in the left. At times she has had aching pains in the thighs,

never sharp or shooting pains. There is no muscular wasting. The knee-jerks are exaggerated. There is no ankle clonus. The plantar reflexes are both present and strongly marked. For the last week there has been at times difficulty in restraining the action of the bladder. She has never had retention or delay in passing water. Her speech is not now notably affected, but I am informed that at times there is thickness of utterance. With the exception of some constipation, the functions were healthy. She slept well, and the appetite was good. The vital organs showed no disease. The case appeared to me to be one of disseminated sclerosis, and an unfavourable prognosis was given accordingly. The patient was advised to go to the country and keep at rest. A month afterwards I learned, that one morning when being dressed, she gave a sigh and expired. She had been bright and cheerful the day previously. The cause of death would appear to have been cardiac failure. Is it possible that the bulb had become the seat of changes, in the situation of the vagal nucleus, like those affecting the cord?



Before commenting on the value of some individual symptoms, I should like to record some more cases which originally gave rise to a difficulty of diagnosis which has been resolved by the sequel.

A lady, æt. thirty-one, was brought to me on February 7th, 1878, on account of loss of power in the lower extremities, which had been diagnosed as hysterical. She had been quite well, I was told, though never very robust, until two years previously, when she began to complain of numbness in the feet, and shortly afterwards in the right hand, and also of stiffness in her joints. There was also some numbness in the left side of the face and head for a short time.

At first she could not feel the ground with her feet, and then by degrees there was failure of power, so that she tottered in walking. This had gradually increased, and at the time of her visit to me she could not apparently walk across the room without taking hold of the furniture in order to balance herself.

Now and then she had a feeling of waist constriction. Sometimes there was delay in passing urine; at other times she could not hold it. The bowels were always confined. The grasp

of the right hand was almost *nil.* In picking up small things from the table there were rhythmical movements of the hands. The faradaic excitability of the arms was normal. She complained of pain, or a dull weight at the back of the head; there was no noise in the ears. As she sat everything seemed going round. She had had no vomiting. Always myopic, her sight had latterly become feeble. With all this she had rather gained flesh.

With the ophthalmoscope I found the right disc more pale than the left, which, for its part, was of a dull grey hue. She could see much better with the left than with the right eye. There was no nystagmus. She had a sallow aspect. The heart and lungs were healthy. Three sisters had died of consumption.

On the right side there was ankle clonus. When she pointed the foot it was moved wildly to and fro.

It was clearly an example of disseminated sclerosis. I did not see her again, but learned a year or more afterwards that she had become decidedly worse, and that time had confirmed the diagnosis.

I saw, November 23rd, 1881, with Dr. Playfair, a young lady, twenty-three years of age, who could not walk without help, and the question to be determined was whether the case was one of hysterical paralysis, which it had been pronounced to be by many of the medical men who had been consulted. Dr. Playfair was inclined to think that it was not a case of hysteria. The patient, who was unwholesomely fat, lay in bed. I was struck at once with the fact that she had a little horizontal nystagmus; the pupils were moderate in size; she described herself as being short-sighted. Some five years previously she had complained of her eyes, and had been advised to go to the seaside.

In 1876 she strained her left knee and was lame in that leg for two or three months afterwards. In 1878 she had a fall on the back, and since then she had gradually lost power in both legs, in the left especially. There was no loss of sensibility. I found the knee-jerks excessive in each leg, and ankle clonus in the left, rather strongly marked, slighter clonus in the right. The reflex from the soles of the feet was very imperfect, and suggested a hysterical condition. The legs seemed flabby and

the skin was coarse and cold, and inclined to exhibit the purplish tint that one often sees in the legs of hysterical patients.

As she lay in bed with her hands upon the bedclothes in repose they were quite quiet, but when at my request she put out her right hand to pluck a grape from a bunch, the arm immediately betrayed the rhythmical movements, characteristic of disseminated sclerosis in a marked form. The same symptom was noted, though to a less extent, in the left arm; so also when she sat up in bed with help the muscles of the trunk became affected with movements, and the head also began to shake. When put upon her feet the muscles of the trunk and extremities felt rather rigid.

I examined the eyes with the ophthalmoscope; the right disc showed no important change, but the left presented that dark grey discoloration (somewhat resembling the tint of hyperæmic grey matter of cerebrum) which I have noticed in several cases of disseminated sclerosis. My opinion was that the patient was affected with that disease. Dr. Playfair recently informed me that this young lady was brought back to him six years afterwards in the hope that he

would undertake her case, which, however, he declined. By that time the symptoms of disseminated sclerosis were very marked and far advanced.

In 1885 a gentleman brought his daughter to me, æt. twenty-four, on account of loss of power in the lower extremities, which had been pronounced to be hysterical, and likely to be cured by the Weir Mitchell treatment. The patient could stand, and manage with help to walk across the room.

It appeared that when sixteen years of age she had complained of partial loss of power in the legs, which she had difficulty in co-ordinating. She never became so bad that she could not walk alone, and in the course of two or three months had so entirely recovered that she was sent to school. She remained apparently quite well for five or six years, and was in the habit of taking a large amount of exercise—walking, riding, and hunting. From October to December, 1883, she had been hunting once a week, riding ten or twelve miles to cover and going through much fatigue. She did not have any fall or injury. In December, 1883, she began

to complain of difficulty in walking. After that, when riding, she observed difficulty in rising in the saddle, and her father also noticed this. Within three days after this had been noted she became perfectly paralysed in the lower limbs, so that she could not even move a toe. As she lay in bed she did not know the position of her legs. There was no serious affection of the bladder, but sometimes a little delay in passing urine. The urine was never passed unconsciously. The bowels as a rule were constipated, but on a few occasions there had been some incontinence of fæces. Throughout her illness there had been no anæsthesia of the skin nor any tendency to bedsore.

She lay powerless for three or four weeks, and then a gradual improvement was noticed, first in the toes, and then the power gradually returned to the lower extremities generally. In a few months she was able to walk about the room holding on to the furniture, and would walk up and down-stairs with the aid of the bannisters. She gained more and more power till January, 1885, when she suddenly had a renewed attack. Her limbs "doubled up like paper" under her, to use her father's descrip-

tion. She became paralysed, not so completely as previously in the lower limbs, but more generally, for now the arms became likewise affected so that she could not feed herself. It was noticed, too, that her hands would "shake about." There was also hesitation in her speech, which continued.

On examination I found that in picking up a small object there were marked rhythmical tremors in the left arm, and to a less extent in the right. The muscularity of the scapular and arm muscles was well preserved, and their electrical reaction normal. There was no spinal deformity or tenderness. The tremor of the arms, and especially of the left, was highly characteristic of disseminated sclerosis. It is noteworthy that her father told me that in the attack which took place when she was sixteen years of age, from which she quite recovered, a similar tremulousness of the arms had been observed, although not to an equal extent.

The knee-jerk was exaggerated on each side, and there was an attempt at ankle clonus. The plantar reflex was well preserved.

Whilst she was being dressed I noticed that she sat up on the sofa without support, but there was constant tremulousness of the trunk.

She could not read small print; examined by the ophthalmoscope, the right optic disc was seen to be atrophic. There was no nystagmus. There had never been any pains. The patient's mental powers were described as not being so good as formerly; it was said that she was naturally of nervous temperament, and that of late years there had been an increasing tendency to hysterical laughter. When she was being helped to get up from a chair and stand the body was thrown into large tremors, and the legs were flung about in an ataxic fashion. She then threatened to fall at every step.

As she lay on a couch she could flex the knees with fair strength, and the various movements of the legs were carried out well. In testing the muscles electrically a good deal of involuntary movement was excited reflexly.

My opinion was that the patient was affected with disseminated sclerosis.

In July, 1886, I learned that the disease had greatly progressed, and that the lower extremities were much contracted. There was incontinence of urine and fæces. The sight was still further impaired, and there was loss of memory.

The long interval—five or six years—during which this patient enjoyed good health between her first and second attacks of myelitis makes the case a very instructive one. It was doubtless this circumstance, combined with the emotional symptoms described, which had caused a diagnosis of hysterical paralysis to be made.

The following case is extremely interesting. Mrs. —— was seen by me in consultation with Dr. Playfair, on March 13th, 1883. She was the mother of four children, the last child having been born a year previously. She had been ailing for two or three years, and complained of loss of power in the lower extremities. There was partial rigidity of the legs, which were not ill-nourished. The soles of the feet were very ticklish, and the legs moved up vigorously when they were touched. Tendon reflex was in excess, and there was ankle clonus. As she lay she was unable voluntarily to move either foot from off the bed. She complained of a sense of tightness around the ribs. Examined by the ophthalmoscope the right optic disc was seen to be white, and presenting that metallic glistening look which is observed in some states of atrophy.

There was a history of loss of sight of the left eye, with gradual recovery, and later loss of sight of the right eye, with gradual recovery. This circumstance had been thought to point strongly to hysteria. In spite of this, I believed from the symptoms that the case was probably one of disseminated sclerosis. She was afterwards seen by a distinguished colleague, who thought that the condition was hysterical, and she went under Weir Mitchell treatment.

I learned last year from a friend of this lady that she "sometimes walks five or six miles to the services of her church on Sundays." Her husband's report of the same date is "Partial only, and I fear never likely to be complete recovery. Greatly improved power of locomotion, less nervousness, but a great deal remaining, and decided inability to think of much at any time."

A lady, æt. twenty-seven, the mother of two children, the last being three years old, was seen by me, in consultation with Dr. Playfair, on June 6th, 1883.

The patient, who said that she had enjoyed

good health till two years previously, did not present the aspect of illness in her face. Her complaint was of difficulties in walking, and also in the sense of sight. When examined I found that she could not guide her steps rightly, and her head shook with every step that she took. She could not go through a door straight. If she ventured to look back in walking she would fall down from a feeling of extreme giddiness. She had been numbed all over her body. The left leg appeared to her to be weaker than the right; the knee-jerks were present and well marked in each leg, more in the left than in the right. There was no ankle clonus. No tremors of the limbs were noted. The wrist-jerks were well marked. She did not suffer from headache, or deafness, and there was no facial paralysis. The patient's manner was highly hysterical.

It appeared that she had lost the sight of one eye (the left) entirely two years previously. It recovered to a certain extent in about six weeks. One year later the sight failed in the right eye, though not to the same extent as it had done in the left. At the time of my examination she could not read or do needlework after exerting

herself; she was always obliged to lie down first. After resting thus for a few minutes she was able to read a book. She read No. 2 type at four inches; the right pupil contracted to light; I was unable to be certain about the contraction of the left. Her appetite was bad; she did not suffer from any pain, but was depressed in spirits. She had lost all numbness, except in the tip of the tongue and the fingers. It appeared that two years previously she had felt numbed all over the body; the numbness began in her waist, and descended to the feet, and then mounted from the waist to the throat. The ophthalmoscopic examination showed no change in the optic discs. As this patient quitted the house walking, I noticed her gait, which was staggering like that of the intoxicated.

She appeared to be very quick and intelligent, and this her husband confirmed. He said, however, that she was emotional and inclined to be sentimental. He told me that two very distinguished authorities had both considered the condition hysterical.

I wrote to Dr. Playfair that I could detect no distinct evidence of organic disease.

It seems that when the eyes failed she was taken to an ophthalmic surgeon, who examined her and found nothing perceptibly wrong; he sent her to an eminent colleague, who took a grave view of her case. This patient was submitted to systematic treatment by Dr. Playfair, who, in answer to my enquiry, writes as follows:—"I treated this case. I have a note, July 21st, 1883, to this effect: Mrs. J—— got quite well, and could walk with perfect ease, but she will not take my advice about going away with her nurse, and is going straight home, and I fear she will relapse. This fear appears to have been justified, for I have a letter from her husband, dated September 24th, 1883, in which he says: 'At first my wife was able to walk a mile or a mile-and-a-half, but she did not seem to make further progress, and latterly she has lost ground very much, and her sight is worse than before, and she can now only walk a very short distance." For my part I should have little doubt from the last paragraph that the case is one of disseminated sclerosis, but I have failed to obtain any more recent information regarding her.

A lady was seen by me in consultation with Dr. Playfair, November 27th, 1884. She was very deaf, fifty-three years of age. I found her lying in bed ; she could not completely flex the knee joint, though Dr. Playfair had seen her do it on the preceding day. In trying to do this she lifted the whole lower extremity off the bed. The right limb was alone affected, the foot was strongly flexed in the plantar position, apparently from some contracture, whether or not of the plantar fascia I am doubtful, but certainly there was contracture in the sural muscles. As he thus lay in bed, the tendo achillis was felt to be very rigid, but when I got her out of bed, seated, with her foot on the floor, this rigidity was not noticeable whilst she sat with the leg at right angles to the thigh. In this position, unless by a determined effort (looking meanwhile at her feet), she brought the heel down, that part of the foot remained off the ground, but apparently she could put the flat of the foot on the ground. It was, therefore, impossible to say whether or not there was any permanent contracture of the sural muscles. With a view of helping towards the solution of this point I tested the anterior tibial muscles of

the right leg, which responded normally (considering that they were smaller than the left) to induced currents.

The knee-jerk was exaggerated on both sides, and there was some ankle clonus in the right leg. There was no affection of the bladder or bowel.

Her symptoms dated from two or three years back. Several years previously she had lost the use of the left arm and leg for a time, but recovered on going to Switzerland.

There was a sense of numbness in the right leg, as if it were covered (as she described it) with an extra skin of kid. The plantar reflex was good in both feet. Frequently she did not know where her leg was, and when she got out of bed it seemed quite useless and an encumbrance. It tended to wave about in a "drumstick" fashion. She described her leg as being better than it had been, and she said that both her leg and thigh were bigger than they had been. She complained of a soreness in the left sacral region, which she felt especially on putting the right foot down.

The opinion was given that the condition was of functional character, and she was put under

systematic treatment by Dr. Playfair. He reported to me, November, 1889:—"This patient got apparently quite well. When she left me she had got rid of her crutches, sticks, &c., and could walk about. I have not since heard of her, but her nurse tells me she heard about a year ago that she was fairly well, but still could not walk perfectly." This would be four years after treatment.

The sequel as thus described, as well as subsequent experience in cases presenting the symptoms noted, make me think that I was wrong in my opinion, and that the case was one of organic disease, probably of disseminated sclerosis, which had evidently, however, derived great benefit from the treatment. I would note here that I was probably influenced to an undue extent by the statement that several years previously she had lost the use of the left arm and leg for a time, but recovered on going to Switzerland. I shall have to say something more on this point later on.

A well-grown, healthy-looking lady, æt. twenty-five, of good figure and development, was seen by me in consultation with Dr. Playfair on November 17th, 1886.

Until five years previously—*i.e.*, when she was twenty—her health had been good. She was very active, particularly fond of walking, and able to walk nine miles. Then, without ascertained cause, she began to get some powerlessness of the left leg, which was at first thought to be rheumatic. It went on increasing so that ere long she could only walk half a mile. Since that time, although she had varied apparently a good deal — being sometimes scarcely able to move her legs and at others walking pretty well—she had never been able to walk two or three miles. The loss of power, which began in the left leg, shortly extended to the left arm, and afterwards the right leg and right arm became affected. It would sometimes be the right, sometimes the left lower extremity which was most weak, and so likewise with the arms. Moreover, it would occasionally be the leg of one side and the arm of the other which would be coincidently affected.

The patient walked in a tottering way. The muscles flexing the thigh appeared to be stronger on the left than on the right side. She could get up on to a chair with either leg first, but with the left better than with the right.

The muscles appeared to be well nourished. Her power had varied very much from time to time.

Soon after her attack of powerlessness in the left leg she had a manifest squint, with double vision, which lasted for several months. It was on account of the squint that she was taken to an eminent physician, who expressed an unfavourable opinion of the case. The knee jerks were exaggerated and ankle clonus was said to have occurred, but I did not elicit any. An opinion was given that the condition as then observed was apparently of functional character, and systematic treatment was advised. Dr. Playfair treated her, and she apparently got so far well, that when treatment was discontinued there was only a slight difficulty in walking. From recent enquiry, however, it appears that now, three years later—she remains *in statu quô*, and is evidently affected with organic disease.

A lady, æt. thirty-nine, the mother of one child, was sent to me by Dr. Playfair on July 9th, 1888. She complained of loss of power in walking. In Scotland, four years previously,

she could walk six miles, and gradually after that she lost power, so that she staggered in her walk on looking up, and was obliged to hold on to something. At the same time, she said, a touch was not felt on the left side of the forehead and cheek, and the mouth was pulled on one side—she thinks the left. When examined it was noted that her hand was steady for holding things or for writing. She said that the ends of her fingers tingled. Her articulation was of a hesitating, clipped character, but this, it seems, she had had since the age of fourteen. Her sight began to fail in 1882; the failure in her walking powers a year or two later. The knee jerks were well marked; there was no ankle clonus. She picked up anything from the table easily and without tremor. Three years previously she could not see to read and write, but recovered the power, and for two years she could read fairly small print. Now she could hardly read minion (No. 4) at all. Both optic discs were found to be distinctly atrophic.

Dr. Playfair informed me that this patient apparently made a good recovery under systematic treatment, and went abroad with her nurse. For two and a-half months her condition remained

quite satisfactory. Then one day after unusual fatigue she had a cerebral attack, the precise nature of which is left in doubt. She appears to have been quite unconscious for a considerable time, perhaps some days, and was supposed to be dying. Eventually she recovered from this and came back to England.

I saw this patient in May, 1889, and examination showed distinct symptoms of disseminated sclerosis. The cerebral attack was probably of the apoplectiform character, described by Charcot as occurring in cases of disseminated sclerosis.

A lady, æt. twenty-four, was seen by me with Dr. Playfair, in May, 1884, when the following notes were made:—She has a good colour, large pupils, and is not unhealthy looking. She is rather, but not very thin. She rises from a chair with difficulty and stands tottering, glad to put her hand on anything to support her, and elects to have the feet wide apart, so as to enlarge the base. In walking, the gait is somewhat ataxic, with a slight tendency to over-action. There is but little power in the flexors of the thighs. The

knee jerk is much in excess on both sides, and there is ankle clonus. The plantar reflex is present and not abnormal. Complaint is made of considerable anæsthesia of the lower extremities. A touch is felt, but dimly and less distinctly on the right than on the left leg, and she cannot distinguish by the touch of her foot a Turkey carpet from one of another kind. In reply to a suggestion, she says that her legs feel as if asleep. She does not know where they are in bed without kicking against something. There is slight cutaneous anæsthesia in the fingers. She cannot pick up small things without looking. She has had cutaneous anæsthesia of the left side of the face, and indeed more or less all over her body. No bladder trouble is reported, except rather frequent micturition. There is no nystagmus.

The patient's illness dates from three years. First there was deafness, or, to use her own description, sounds were heard as though at a great distance. Then followed diplopia ; there was no strabismus perceptible, according to her sister's account. A surgeon said there was paralysis of a nerve, but an ophthalmic authority is reported to have said that it was of

no consequence. In a week or two or more she lost the sight of the left eye almost entirely, but after some little time it returned. Now nothing abnormal is to be detected with the ophthalmoscope. She says that now the sight of the *right* eye is not so keen as that of the left.

It seems that at one time she had lost the use of both her arms. Now there is good grasp with each hand; no increased reflex is to be observed at the wrists. There are no tremors in the arms.

An opinion had been given by two eminent physicians three years previously that this patient had disease of the spinal cord, but two equally distinguished authorities who had more recently seen the case (one of whom indeed sent it to Dr. Playfair) said that it was an example of hysterical paralysis.

Having been informed that three years previously the anterior muscles of the left leg had been found by a high authority to give no response to induced currents, whilst those of the right contracted well, I submitted the patient to a careful examination with electrical currents.

The application of currents to the legs gave rise to a good deal of reflex muscular action in the muscles moving the thighs. The faradaic excitability was everywhere quite normal in the lower extremities, as also in the forearms and hands. With the galvanic current K S Z > A S Z. I gave the opinion that all the symptoms observed at that time could be explained by functional trouble, but some reserve must be felt owing to the past history.

The patient underwent a course of systematic treatment for nerve prostration, but without satisfactory result as regards her power of walking.

At her mother's request I saw her nearly four years afterwards, February 27th, 1888. She was then a good deal more helpless, but could lift the right knee a few inches, and the left, perhaps, one inch. She could not dorsal-flex either foot. With a stick and an arm she walked in a laboured manner, but the exertion to do this caused her great fatigue. Her eyes now presented nystagmus, both horizontal and vertical. There was a little waviness in the movement of the hands. Speech and hearing were good. Patient suffered from great fre-

quency of micturition, the bladder requiring to be relieved every few minutes. She had no trouble with the bowel. She slept well, and her general health was good.

Tested by induced currents the anterior tibial muscles of the left leg showed more defective response than those of the right, but on both sides the reaction was distinctly lowered. It does not need to be said that symptoms of disseminated sclerosis were now strongly pronounced.

In the case which follows a diagnosis of hysteria had been made before it came under my observation, and the girl certainly presented very much the aspect of an hysterical patient. It seems worth recording because of the sequel.

A young woman, æt. twenty-two, was admitted into the National Hospital for the Paralysed and the Epileptic on August 3rd, 1887, on account of loss of power in the hands, and also in the lower extremities. There was no history of injury. She had suffered from measles when a child. About five years previous to admission she began to suffer from pains in both hip joints and weakness in the legs.

Nine months ago her knees gave way, and she complained of severe pains in the lower limbs. For three months she was able to go about with the aid of sticks, but for the last four months had been confined to bed.

For the last three years she had had attacks of loss of power in the hands, accompanied by semi-flexion of the fingers and pains. The condition had been considered hysterical.

On admission it was found that she could perform all movements of the upper limbs. No wasting or rigidity was present. She stated that she had occasional numbness and a 'pins-and-needles' sensation in the fingers of both hands, and that she often had loss of power in the hand for a short time. No loss of sensation was observed. When asked to take hold of a pen held at a distance, there was marked tremor and inco-ordination. This was present in both upper limbs. It was with difficulty that she could drink from a cup without spilling the contents. The wrist jerks were present on both sides, not exaggerated.

She could perform all movements of the right lower limb as she lay in bed, but they were feeble. The left lower limb was flexed

at the hip and knee, and patient was unable to extend fully at these joints. She was able to dorsal-flex the foot to a slight extent, also to flex and extend to a very slight degree the left hip and knee, but was unable to perform any other movements of the left lower limb. There was drooping of the toes of both feet, especially the left, but the patient was able to extend them. There was great rigidity in both lower limbs, especially in the left, which resisted all attempts at passive movements. The plantar reflexes were present on both sides, ankle clonus present on both sides, especially marked on the left. The knee jerks were exaggerated ; there was knee clonus on the right side.

The right lower limb was subject to attacks of great rigidity in a position of extension ; the left to attacks of rigidity in a flexed position. Formerly, according to her account, the left limb was apt to fall into a rigid posture in the position of extension.

There was no loss of sensation anywhere, but the patient complained that she suffered from twitchings and drawing up of the legs, especially of the left. She also had pain in the thighs and

knees. She had been unable to walk for the last three months.

When examined she was unable to stand without help, and could not put the left foot to the ground on account of the contracture described. There was slight nystagmus, and tremor of the head and neck was observed when the patient was asked to fix her eyes on any object. Her speech was rather slow, and there was a tendency to pronounce the words in syllables; there was very slight tremor in the lips and tongue. She suffered occasionally from pain in the head, in the vertex, and also in the forehead. She described having frequently suffered from diplopia. The pupils reacted to light and to accommodation.

There was no spinal deformity and no tender spot on percussion of the spine. There was no vesical trouble, and nothing wrong in the respiratory and circulatory systems.

The optic discs were very pale. On sustained convergence there was well marked quick nystagmus, occurring simultaneously in both eyes, but generally better marked in one than in the other. The pupils were not ob-

served to vary consentaneously with the nystagmus.

The patient having been attacked with scarlet fever, was sent to the Fever Hospital, where she died. Dr. Barlow, under whose care she was admitted, was good enough to let me examine a hardened specimen of the spinal cord, which showed characteristic evidence of disseminated sclerosis.

During the first week or two of the following patient's stay in hospital I could not make up my mind as to the nature of her case, and I distinctly inclined to the belief that it was of functional character. She was highly hysterical; there was a history of long-continued vomiting, and of loss of voice. But further observation convinced me that it was one of disseminated sclerosis—as was proved by the sequel.

A female patient, æt. forty-two, was admitted into the National Hospital for the Paralysed and the Epileptic, Queen Square, on December 3rd, 1884, complaining of stiffness of both legs, being unable to walk without aid; also of pain, especially in the back, which seemed to radiate

down both legs, shooting in character. The left leg appeared worse than the right. The pains were better when the patient was up and walking about.

For the last twenty years the patient had been subject to attacks of sickness after every meal (sometimes only after one meal in the day), the longest interval of freedom from sickness at any time being fourteen days. During this time the patient used to be readily tired, the legs would ache, but she did not have any special pains.

Four and a half years before admission the aching and weariness of the limbs began to get worse, and the patient complained of the weight of her dress. The calves of both legs used to swell, and become shiny and hard. This disappeared in about a fortnight or so, but would occasionally recur. After this she began to suffer much from sharp shooting pains in the head and neck, relieved by lying down. The toes also at that time became very tender, and the tenderness continued for about two months, but had not returned.

Twelve months previously the patient noticed the legs begin to get stiff, but even before this

her legs had occasionally drawn up when she was in bed. On two occasions during the last fifteen months, the urine had had to be drawn off.

It is noted on admission that the patient is fairly well nourished. The hands tend to turn over, and she would drop things unless very careful; the grasp is fairly good. She is not able to do fine needlework. Occasionally there is a 'pins-and-needles' sensation in all the fingers of the right hand. She has difficulty in touching the nose with the fingers, her eyes being closed, but there are no tremors. She is able to localise touch and pain correctly in the arms; the wrist jerks are not increased. There is no nystagmus.

She has a feeling of tightness around the waist; the whole leg from the knee to the ankle feels tight "as if it were going to burst." Tactile and painful sensibility is much impaired all over the legs and thighs. The plantar reflex is well marked in both legs; both legs are very stiff. Knee jerk is well marked when the legs are not too rigid, but it is impossible to get ankle clonus because of the stiffness of the legs. She is able to direct each foot pretty well to an object.

As regards the sickness from which she used to suffer, she says that she never felt sick, but food would come up at once. There was no pain in her stomach. The smell of fish would make her sick. Eight years ago for about three months she lost her voice. Her manner is highly hysterical.

No particular change occurred in the symptoms during her stay in the National Hospital.

This patient died in 1885 in Guy's Hospital, under the care of the late Dr. Carrington. The notes of the autopsy, for which I am indebted to Dr. Gay, are as follows :—Large bed sores over the sacrum extending down to the bone, and one over the great trochanter of the left side. Abscess in each thigh, which had been opened. Brain weighed forty-one ounces. Meninges and arteries at the base presented nothing abnormal. The left temporo-sphenoidal lobe showed yellow softening on the surface and interior, extending to the corpus striatum. The whole brain was very carefully cut into fine sections, but no sclerotic patches were found. The spinal column was normal. A patch of purulent lymph was found on the posterior surface of the spinal cord in the lumbar

region. The cerebro-spinal fluid was rather in excess. Patches of sclerosis began in the pons varolii, at the centre of which there was a patch on either side, and one also on the surface. They were raised, hard, semi-translucent, and glistening. There was a patch on the surface of the medulla oblongata, spindle shaped, half-an-inch long, and extending inwards to the white matter. There was no softening of the cord, but many patches of sclerosis on the surface or more deeply.

The dorsal region of the cord was the least affected, the lumbar most. The posterior columns were most diseased, many parts between the posterior cornua and commissure being completely sclerosed. In some parts of the lumbar enlargement the whole transverse area, including the grey matter, was affected. All the other organs were healthy.

A case which was recently under care in hospital furnishes so good an illustration of the difficulty in diagnosis that may be caused where a moral shock forms part of the history that, although incomplete, it appears to be worth recording.

Ann B——, æt. thirty-one, widow, was admitted into the National Hospital for the Paralysed and the Epileptic, on October 26th, 1889. The following notes were taken by Dr. Taylor, then resident medical officer.

Nine years ago, two or three weeks after the death of her husband (after a fortnight's illness), which had been a very great shock to her, she suddenly in one night lost power in her legs, and was unable to stand or walk for several weeks. She had previously been in good health. She gradually recovered, but has never been as she was before—has never been able to run or to walk fast.

During the last six months she has gradually lost ground, not suddenly, but she is now worse than she has been during the last seven years. Her difficulty is to get her legs to separate from each other, and also in going up stairs. For the last four years there has been at times great difficulty in passing water, and sometimes she has suffered from inability to retain it. Patient was a strong healthy woman previous to her husband's death. On admission she complained of difficulty in walking. The condition of the arms was normal, except that a

slight tremor showed itself at the end of the act in attempting to touch an object with the left hand. In the lower extremities all movements were carried out, though rather feebly and with some tremulousness, especially to be noted on bending the knees.

There was a peculiar condition of the skin, of ichthyotic character, which appeared to be sufficient to account for any blunting of sensibility observed. This has been present, according to the patient's account, all her life. The knee jerks were greatly exaggerated. Ankle clonus was present in the right leg, and a tendency to it was evident in the left. The patient appeared well nourished. The gait was that of a person with functional paraplegia, but the legs showed notable stiffness. When standing the legs were widely separated and became tremulous, whilst the body swayed to and fro.

Whilst under observation in hospital this patient continued much in the same state. There was no peculiarity of articulation, and no nystagmus. The ophthalmoscope showed no change in the optic discs.

I believe that this woman is affected with organic disease of the spinal cord, and possibly

in the form of disseminated sclerosis, but the difficulty of pronouncing an opinion upon this point will, I think, be manifest.



There can be but little doubt that of all organic diseases of the nervous system, disseminated sclerosis in its early stages is that which is most commonly mistaken for hysteria. This would appear to be due especially to the following circumstances. The disease is particularly common in young females—symptoms frequently showing themselves about the period of puberty. There is very often a history of some moral shock or strain, preceding or accompanying the first symptoms. It is a question worthy of consideration whether sudden strong emotion or long-continued mental worry may not be found to be etiological factors in the disease, but this is not the occasion for discussion of the point. In addition, there are few cases of disseminated sclerosis in females in which hysterical symptoms are not mixed up with those incident upon the recognised patho-

logical changes. Obviously this combination of itself causes a peculiar liability to mistakes of diagnosis. But there is another great source of error in the fact that many of the symptoms of disseminated sclerosis are just those which have long been looked upon as hysterical. An alleged sudden loss of power in a limb of an apparently healthy young female, a localised numbness, or 'pins-and-needles' sensation, or complaint of loss of sight in one eye, are symptoms familiar enough as expressions of functional trouble. But they are no less modes in which organic disease of the kind which we are discussing is very apt to make its first appearance. These local symptoms may clear off after a short time, just as would be the case if they were of hysterical origin. The girl recovers her sight, or the use of her limb, and nothing more is heard of the numbness. A little later perhaps loss of sight in the other eye is complained of; a 'pins-and-needles' sensation is described in some other part; another limb is said to be very weak. The opinion that the symptoms are due to hysteria may very possibly appear to be confirmed by this re-appearance of trouble in other situations. Or the

patient perhaps complains of weakness and stiffness in both legs, which increase so that in six or eight weeks she cannot stand. Then comes a rather rapid improvement, and she recovers her power completely. Sooner or later—in some cases after an interval of years—the failure of power recurs. After recoveries and relapses of this kind, the characteristics of confirmed disseminated sclerosis show themselves.

Reference has been already made to a symptom which I have observed to be exceedingly common, to be the rule, indeed, in hysterical paraplegia—absence of plantar reflex. This has been dwelt upon rather fully, as it has not, to my knowledge, been described by other writers, and in my experience its value is considerable. It would be still more valuable, of course, if it were quite constant, but this is not the case. Every now and then one meets with exceptions to that which, however, is distinctly the rule. It becomes of importance to inquire as to the behaviour of the plantar reflex in those cases of disseminated sclerosis which are accompanied by emotional characteristics of a kind to which the term hysterical is commonly applied.

I have been much interested in observing that in these it is a rare exception for the plantar reflex to be absent. It is not, perhaps, pressing the point too much to say that in a case of doubtful character the persistence of plantar reflex should distinctly weigh in the direction of a diagnosis of organic disease—its absence lending support to the view that the affection is functional. But I cannot sufficiently insist that reliance must not be placed upon the evidence afforded by one symptom alone.

It is obvious that absence of reflex from the foot-sole may be dependent upon myelitis or neuritis, the existence of which may be left in no doubt by the presence of corroborative symptoms.

It will have been observed, I think, that in all the cases described in this work in which the sequel has shown the disease to be of organic character, the plantar reflex has been preserved; in all but one in which the result has given evidence of functional disease the plantar reflex has been absent.

A patient has lately been in hospital whose case would seem to furnish an exception to this rule.

A young woman, æt. twenty-three, has suffered on and off for eight years from weakness and occasionally numbness in the legs. On one occasion she lost her voice for some time. Her knee jerks are active; there is no ankle clonus. The plantar reflex is not obtained on either side. The field of vision in each eye is contracted to a marked extent. Such a history points strongly as far as it goes in the direction of functional disorder. But, on the other hand, the patient has suffered from attacks of giddiness, with double vision, and her gait is unsteady. There is slight tremor of the arms on voluntary movement, and, most important of all, there is nystagmus. She therefore presents, at the same time, marked symptoms both of functional and organic disease, and the case must certainly be included in the latter category.

My colleague, Dr. Bastian, has kindly allowed me to refer to a case of his lately in hospital, in which the presence of marked symptoms of functional character might easily tend, without careful observation, to render a case of organic disease—probably disseminated

sclerosis—liable to be set down as one of hysteria. I am indebted to Dr. Rivers for the notes.

The patient, twenty-one years old, about four years ago suffered from diplopia, and a few months later, after going through a course of cold baths for the cure of obesity, from weakness and shaking of the left arm. She would frequently fall when out for a walk. There has been occasional retention of urine, and sometimes inability to restrain the action of the bladder. On two occasions lately her motion passed unconsciously. The utterance has become slower, and she has lost the power of singing. Her gait is very unsteady, and she cannot walk without support. There is tremor of the left arm on voluntary movement. There is weakness of the right external rectus muscle, with resulting diplopia, and nystagmus, which is principally seen during the upward movement of the eyes. The knee jerks are exaggerated and there is ankle clonus, most marked on the left side. The plantar reflexes are present. The visual fields are contracted in both eyes, most in the right. Whilst the colour vision of the left eye is normal that of

the right is very defective, especially for red and green. The optic discs are normal. Vision: R. $\frac{6}{36}$, L. nearly $\frac{6}{12}$.

On the left side of the body there is hemianæsthesia to touch, pain, and temperature, complete on the arm and leg, whilst the sensation on the trunk is impaired. With this the sense of position is quite absent in the left arm and leg. Whilst in hospital the patient had some very severe fainting attacks. She quitted the hospital unimproved.

The girl exhibits the modifications of vision which have been insisted upon by Charcot as of very frequent occurrence in hysteria. There is great retraction of the field of vision in each eye. This symptom, it will have been observed, was noted in a girl affected with what was certainly hysterical paraplegia, whose case is described on page 48. Besides the retraction of the field there is great diminution also of the acuteness of vision, and on the right side considerable loss of the notion of red and green. It is true that these phenomena accompanying hemianæsthesia are not absolutely peculiar to hysteria, but may be observed in cases where there is a lesion in a certain part of the internal capsule.

Cases such as these two last are very important, as showing that in examining a patient the mere presence of what are supposed to be marked symptoms of hysteria is quite insufficient to enable us to refer the disease to that category. A single symptom of organic disease outweighs even a number of these, and we must be careful to exclude, if we can, the presence of anything, however slight, pointing distinctly to organic disease ere we can venture to diagnose the case as of functional character.



It is well known that hysteria is not confined to women. Hence the difficulty of diagnosis in affections of the class under consideration may occur in the case of persons of the male sex. The following is an important illustration of this.

In 1882 I examined, in consultation, a young man with sallow complexion, large pupils, and very nervous manner. He was lying on a couch, and said that he was not able to walk

much, because walking brought on a queer sensation in his legs, especially in the left leg, a 'pins-and-needles' numbness being described. There did not appear to be any anæsthesia below the knee of the left leg. His symptoms were entirely subjective. It appeared that at Easter, 1881, he had got a chill. Later there was a feeling of numbness, especially in the left leg. Since then, with intervals of good health, he had had several breakdowns, which had occurred after walking too long a distance, jumping, riding, some physical strain. There had been no moral strain.

I tested the muscular power, which seemed perfect in all the groups of muscles of both lower extremities. The knee jerk on each side was much exaggerated, and there was a slight attempt at ankle clonus, more on the right than on the left side. There was, however, considerable excess of reflex in the triceps and wrist also, whilst there was no complaint of anything being wrong with the arms, so that I thought the excess in the knees might be "discounted." There were no tremors. Plantar reflex was not very strong.

The pupils contracted readily to light; the

ophthalmoscope showed nothing abnormal. There was a strong neurotic history on the mother's side. The disorder was thought to be functional, and the patient was advised to go for a voyage and then resume his studies.

I saw this patient about fifteen months later. It appeared that after seeing me he went for a time to the seaside, and thence to one of the Universities, where he took his degree satisfactorily, and appeared to be quite well. Soon afterwards he walked in Scotland as well as ever. He only complained of a little numbness about the knees, equally on each side. I congratulated myself on a successful diagnosis, but this, as the result showed, was premature. Not to weary the reader with details, it is enough to say that this patient now—seven or eight years having elapsed—presents characteristic symptoms of disseminated sclerosis.



In view of this publication I have looked through a large number of notes of cases both of hysterical paralysis and of disseminated

sclerosis which have been under my care, and in many of which I have been able to learn the issue. As regards the value of individual symptoms in enabling us to differentiate organic disease from functional disorder, I find that whilst there is still much to be desired, there are points in which experience appears to speak with a fair amount of distinctness.

As a rule—though this is not without some notable exceptions—the class of hysterical paraplegia is not very difficult of diagnosis by those well acquainted with the symptoms and course of organic disease of the spinal cord, the surrounding circumstances, and especially the contradictions palpable in the symptoms leaving one usually in but little doubt. I need not dwell upon these on the present occasion, but would remark that the attitude and conditions of the lower limbs in such cases may vary exceedingly. The limbs are most often in a state of perfect flaccidity, a condition of spasticity being comparatively rare. The feet are frequently "dropped." After long disuse it will not unfrequently happen that there are strong adhesions in the joints. I have already referred to this, and to the pseudo-contracture due partly

to this fibrous ankylosis and partly to contracture of the skin—not of the muscles. Hysterical paralyses are most often complete. The loss of power in disseminated sclerosis is very rarely (except in advanced stages) more than moderate. I cannot help thinking that the view still generally held that a shifting of loss of power from one limb to another (such as that which I have described) is characteristic of hysteria is quite an error. The hysterical woman who has lost all power in her legs, will, it is true, very often later on (whilst still paraplegic) lose the power of one arm, usually the left; but I have not found that she is prone to lose the power in a limb, then recover it, and then lose it in another. It seems to me that the idea of this shifting powerlessness being strongly confirmative of hysteria has arisen from mistakes in diagnosing as hysteria cases of disseminated sclerosis. Such mistakes must have been continually occurring before the latter disease had been differentiated. No doubt the hysterical are prone to changes of disorder; at one time, for example, losing the use of a limb or limbs, with or without profound anæsthesia, at another time losing the

voice, or closing one eyelid, or contracting a limb, but the shifting about of a state of more or less powerlessness, which we see in disseminated sclerosis, appears to me to be *sui generis*, and should, I am disposed to think, save us from error. And equally so with the occurrence of numbness or 'pins-and-needles' sensation, sometimes at one part and sometimes at another, which, if my notes do not betray me, points with considerable distinctness to disseminated sclerosis.

There would appear to be a little more difficulty in regard to the impairment of sight in one eye to which I have referred. The ophthalmoscope perhaps shows no change. But we shall find, I think, that the hysterical patient, as a rule, when loss of sight of one eye is in question, is quite blind on that side, and has usually become suddenly blind, whilst the patient with sclerosis has only more or less obscurity of vision which has come on somewhat gradually. I cannot call to mind, since I have been better acquainted with disseminated sclerosis, any case of simple hysteria in which first one eye lost some amount of vision for a time and recovered, and afterwards

the other eye behaved in a similar fashion. So that this symptom I should now take to point with considerable force to disseminated sclerosis. When the ophthalmoscope shows atrophy of disc (and it is remarkable in what a large proportion of cases of disseminated sclerosis some atrophy is to be found—in some a stage of hyperæmia preceding it) my experience would teach me that a diagnosis of functional disorder must be discarded.

The same must be said of nystagmus, a symptom of peculiar value when combined with others about which there might otherwise be some doubt. It is necessary, of course, to remember the possibility of chronic alcoholism producing a temporary nystagmus, but this chance of error ought not to be difficult to avoid.

We next come to the tremor on intentional movement, upon which I am disposed to place a diagnostic value higher than that possessed by any other symptom of disseminated sclerosis. Looking back many years I can remember observing numerous cases which presented this symptom at a time when I used to feel very great difficulty in the differential diagnosis

which we are considering. I cannot call to mind one which the sequel proved was simply functional. It is true that in the hysterical we not unfrequently see a clumsiness of movement of the hand when directed towards an object, which is somewhat liable to deceive, but observed carefully it will be found that this is rather of the nature of ataxy than a rhythmical tremor such as is found in sclerosis, and would appear to result from a temporary loss of muscular sense.

There is also another variety which is worth noting. The patient asked to touch an object with her finger, does so without difficulty or hesitation, but when the finger has rested upon the object for two or three seconds the arm becomes affected with somewhat rude tremors. This is in striking contrast with the tremor which affects the arm in disseminated sclerosis, as the patient brings the finger near the object, tending to cease when it is attained.

On the coarser semi-convulsive movements, twitchings, jerkings, and grimacings not rarely met with in hysteria I do not dwell. They could not for a moment deceive anyone acquainted with the subject.

Localised atrophy of muscles with loss of electrical reaction is well known to occur sometimes in the course of disseminated sclerosis, and in a case otherwise open to doubt its presence is undoubtedly of the highest value in determining the organic nature of the disease. But I do not think it is generally known that localised atrophy may behave like the temporary powerlessness of a limb or limbs, or the shifting numbness. I have seen several cases of disseminated sclerosis in which atrophy of some muscles, with loss of electrical reaction, has cleared off entirely, to be succeeded some time afterwards by a similar lesion in another or the same part.

It is exceedingly improbable that disseminated sclerosis is a new disease. Little more than half a century has elapsed since it was figured by Cruveilhier in his *Atlas d'Anatomie Pathologique*, and twenty-three years ago Charcot expressed his belief—a well-founded belief, I have reason to think—that the disease was not known, that is to say, not recognised, in England. It is practically indeed to Charcot that we owe our acquaintance with the disease, from the admirable summary of its clinical and

pathological features published by him in his earlier lectures. Now we all know what a length of time it takes for a disease, however excellently pictured, to fix its features so firmly in the minds of medical men generally, as to make the diagnosis of it come readily to those who have not gone out of their way to seek examples of it. And this, which is true of most forms of organic disease, is from the nature of things most marked in reference to disseminated sclerosis. In that disease the infinite irregularity in the situation of the essential pathological lesions creates difficulties of recognition beyond those to be met with in any other example. This being the case it is not surprising that the symptoms, characterised as they are by frequent remissions, should, in the absence of other explanation, be set down to the vagaries of hysteria. The almost constant admixture of circumstances pointing to an emotional origin or accompaniment of these symptoms greatly increases the likelihood of this confusion occurring. As I have before remarked, it appears to me reasonable to conclude that many symptoms which have come to be considered characteristic of hysteria will, if

examined by the light of improved knowledge and experience, be relegated to disseminated sclerosis. The figure of Hysteria shrinks in proportion as the various forms of organic disease acquire greater solidity and sharper definition.